

from Bechuanaland for *M. fringillaris* Auct. nec *Alauda fringillaris* Sundev., which belongs to the genus *Botha* and represents apparently a species distinct from any in the group. A further account of the collection in the Stockholm Museum will be found in Lönnberg's article, in 'The Auk' for October 1926.—W. S.

Rowan on Photoperiodism and Migrations.—This important paper¹ as explained by its author deals with the factors which cause birds to migrate at definite seasons—not with the origin, significance or purpose of migration. Changes in food supply, weather conditions, temperature, etc. cannot be regarded as immediate stimuli to migration but may affect it to a greater or less extent in different species. These factors are too variable in character to be the stimuli of migration which is markedly regular.

What we must look for to explain it is a stable influence as regular as the migration itself. This the author suggests is to be found in, (1) an internal physiological *impelling* factor supplied by the reproductive organs when in a particular state of development and activity, and (2) an environmental *controlling* factor provided by the varying day lengths, increasingly longer in spring and shorter in autumn, corresponding to the time of migration.

By increasing the day length by use of artificial light *Juncos* kept in outdoor cages in Alberta with a temperature descending at times to 52 below zero developed their gonads prematurely while *Juncos* kept in cages subjected only to the light received from the sun failed to develop in this respect beyond the winter minimum. *Juncos* exposed to the extra amount of light also departed at once when liberated, while those kept under normal conditions at this station, far north of their winter habitat until the regular winter minimum of gonad development and then liberated under varying weather conditions, showed no inclination to migrate at all.

Much interesting discussion and details of the experiments leading up to the author's conclusions are presented and should be read by those interested in migration.

The more extended claims of the influence of light on migration as advanced by several writers are considered in detail.

Prof. Rowan is to be congratulated upon a valuable contribution to a subject even yet but little understood, especially in connection with the ingenious experimental method that he has applied to it.—W. S.

Recent Publications by Kuroda.—Dr. Nagamichi Kuroda has recently published a handsome little volume² on the 'Birds of Fujiyama' in which 148 species are listed with lengthy annotations. There are many text-figures of mounted birds, skins and nests from photographs and two color plates of birds, one of eggs and a map of the famous mountain. Un-

¹ On Photoperiodism, Reproductive Periodicity and the Annual Migrations of Birds and Certain Fishes. By William Rowan. Proc. Bost. Soc. Nat. Hist., Vol. 38, No. 6, pp. 147-189. December, 1926.

² Birds of Fujiyama. By Nagamichi Kuroda, Dr. Sc. 1926. pp. 1-237 + 1-10.

fortunately for American readers the work is entirely in Japanese with the exception of the technical names, synonymy and title.

Another extremely interesting paper¹ by the same author is in English and describes the method of catching Ducks in hand-nets practised on Dr. Kuroda's family estate for many years past. A pond of some three and a half acres in extent carefully shielded from view is resorted to every year by thousands of wild Ducks. From this have been constructed seventeen dyked ditches 48 feet long and six feet across, which have a right angled bend at the middle so that the inner section cannot be seen from the pond. At the end of each ditch is a little feeding house presenting a solid wall to the ditch but open behind and with small holes for observation.

Domestic Ducks hatched under a hen are trained to run to a feeding box whenever fed by rapping on the box with a mallet whenever feed is furnished them. When they have become full grown they are released on the pond and are induced to swim up the ditches to feed whenever the caretaker raps on the wooden wall. Wild Ducks naturally follow them and soon the inner ditch will be full of them coming for their share of food which is supplied through a bamboo tube by the concealed "decoy-man" behind the board wall. The "hunters" at the signal suddenly climb up over the dyke which has been constructed along the ditch and as the Ducks take wing they scoop them in with long handled nets which they carry. The utmost care is taken to conceal everyone concerned from the Ducks on the pond. No word is spoken before the operation is started and all communication is by signs.

Dr. Kuroda states that this method secures the Ducks free from blood, or from bird lime which inevitably soil the feathers when the birds are shot or caught by lime and with no discharge of fire arms to frighten them the wild Ducks remain the season through on the pond. No less than 54,000 Ducks have been caught in this way on this pond alone since 1905-6, of which 21,000 were European Teal, 16,000 Pintails, 4,000 Falcated Teal and 3,600 European Widgeon. Dr. Kuroda proposes to invite the visiting zoologists at the Third Pan-Pacific Science Congress to inspect his pond.

Another of Dr. Kuroda's recent papers deals with the Japanese Pheasants² and still another with the birds of Mt. Fuji.³—W. S.

Kennard on the Snow Geese.—As is well known to many of our readers Mr. Frederic H. Kennard has for some years been making an exhaustive study of the Snow Geese and the Blue Goose. In the paper⁴ before

¹ Wild Duck Hunting at Haneda. By Nagamichi Kuroda, Dr. Sc. With 8 plates and 1 map. Published by the author, Tokyo, 1926. pp. 1-22.

² Notes on Japanese Pheasants. Bull. Imp. Soc. for Preservation of Scenery, Historic and Natural Monuments. Vol. 1, No. 6, pp. 7-18, Jan., 1926. In Japanese.

³ Birds of Fuji. By Nagamichi Kuroda. Dobutsugasshi, XXXVIII, Jan. 1926, pp. 7-9. In Japanese.

⁴ The Specific Status of the Greater Snow Goose. By Frederic Hedge Kennard. Proc. New England Zoological Club. Vol. IX, pp. 85-93 February 16, 1927.